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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/530,057	04/04/2005	Hiroyuki Sugihara	268537US3X PCT	6265
22850	7590	11/15/2007		
OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			EXAMINER FORD, JOHN K	
			ART UNIT	PAPER NUMBER
			3744	
			NOTIFICATION DATE	DELIVERY MODE
			11/15/2007	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/530,057	SUGIHARA ET AL.	
	Examiner	Art Unit	
	John K. Ford	3744	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10/26/07
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 11-23 is/are pending in the application.
- 4a) Of the above claim(s) 14, 18-23 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 11-13, 15-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 4/4/05 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>2005-06-06, 2005-04-04, 2006-04-07</u> | 6) <input type="checkbox"/> Other: _____ |

Applicant's election of the species of Figure 8, claims 11-13 and 15-17, without traverse, in the 10/26/2007 response is acknowledged.

The examiner requires a translation of at least the reference numerals in JP 55-14905 Figure 3 and 4, preferably the entire document. Its relevance and materiality is beyond question.

The drawings are objected to because Figures 1-4 must be labeled as PRIOR ART, consistent with what applicants know to be prior art (not necessarily what US counsel knows to be prior art). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance. If applicant intends to traverse the drawing requirement on the basis that

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drawing Figures 1-4 are not prior art known to the inventors, a formal declaration or oath to that effect from the inventors is required.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 11-13 and 15-17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The examiner is having difficulty determining what the overall combination being claimed actually is. Are you claiming the heat exchanger by itself or the heat exchanger in combination with a diesel engine having water-cooling? If the diesel engine is part of the combination, then recite it as a separate element after the word comprising and not simply part of a functional phrase. Functional recitations about the intended fluids to be used in the heat exchanger or intended consequences of the heat exchanger in use are not given weight consistent with MPEP 2114, assuming that only the heat exchanger, *per se*, is being claimed. Once it is clear to the examiner what the scope of the claims are, examination will proceed accordingly. A vague response to this critical issue will be treated as non-responsive.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 11, 12, 15 and 16 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over JP 2000-274990 or applicant's conceded prior art Figure 3.

Figure 3 of this reference, JP '990, shows a heat exchanger having the type of bypass claimed. See conduits 17a and 17b, in particular. Similarly, Applicant's conceded prior art Figure 3 shows a similar bypass flow path 14.

Claims 11, 12, 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 2000-274990 or applicant's conceded prior art Figure 3 in view of Klute (USP 2,922,441) or Peirasso (USP 7,073,576).

Figure 3 of this reference, JP '990, shows a heat exchanger having the type of bypass claimed. See conduits 17a and 17b, in particular. Similarly, Applicant's conceded prior art Figure 3 shows a similar bypass flow path 14.

Klute, Figure 4, and Peirasso, Figure 2, each teach projecting a small conduit into a larger one to increase the flow rate through the smaller conduit. To have modified JP '990 or applicant's conceded prior art with this feature (at the juncture of the main

outlet and the bypass outlet) to advantageously increase the flow through the bypass would have been obvious to one of ordinary skill in the art.

Claims 11, 13 and 17 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over JP 2000-234566.

See Figure 3(B), where some of the tubes have been removed relative to what is shown in Figure 3(A). The spaces where these tubes are "missing" in Figure 3(B) extend along the inside of the shell and constitute the bypass flow path. Eventually the bypass flow path joins the cooling water outlet

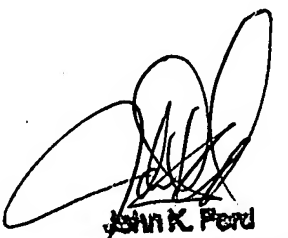
Claims 11, 12, 13, 15, 16 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 11-280563 in view of any one of (applicant cited) JP 2000-292089 or JP 2000-283666 or JP 55-14905.

JP 11-280563 shows a baffle plate type heat exchanger in Figure 10 that does not have a bypass path between the inlet and outlet, but does have a reduced number of tubes near the periphery to allow for the "U-shaped" flow at the inner periphery of the shell as seen in the bottom illustration in Figure 10. Each of applicant cited JP 2000-292089 or JP 2000-283666 or JP 55-14905 teach such a bypass path. To have provided each of the baffle plate 12' of JP '563 with a bypass path as taught by JP 2000-292089 (Figures 4-9, bypass "F") or JP 2000-283666 (Figure 2, bypass 6) or JP 55-14905 (bypass shown in Figures 3-4, with what appears to be bypass pipe 14 extending into outlet 11) would have been obvious to one of ordinary skill in the art.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John K. Ford whose telephone number is 571-272-4911. The examiner can normally be reached on Mon.-Fri. 9-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cheryl Tyler can be reached on 571-272-4834. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



John K. Ford
Primary Examiner